Abstract of the Disclosure

A method and device for monitoring and/or controlling a load on a slender, tensioned elongated element extending from a subsea wellhead element to a surface vessel. The tensioned elongated element is arranged so as to be displaced in its longitudinal direction into or out of the subsea wellhead element via an entry at a top end of the latter. The structural behaviour of the wellhead element is measured. The bending moment and/or declination of the tensioned elongated element is estimated in a bottom region adjacent to and/or at the entry upon the basis of the measurement of the structural behaviour of the wellhead element.